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Congenital Cardiology Solutions

CONTEMPORANEOUS EXPERIENCES WITH OPPOSING STRATEGIES FOR SEVERE CONGENITAL AORTIC STENOSIS IN TWO CENTRES OVER THREE DECADES: SURGICAL VALVULOPLASTY VERSUS BALLOON VALVOTOMY

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Authors: *Jonathan Forsey, Edward Hickey, Lee Benson, Marcus Haw, James Monro, Gruschen Veldtman, The Hospital for Sick Children, Toronto, Canada, Wessex Cardiovascular Centre, Southampton, United Kingdom*

Background: Switching from surgical (SV) to balloon (BV) valvotomy for primary treatment of congenital aortic stenosis was not evidence-based. We compared outcomes between 2 tertiary centres spanning the same era who adopted opposite strategies.

Methods: Strategies were SV in centre A and BV in centre B. Competing risks and modulated renewal analysis to compare outcomes between 27 consecutive SV (A; '86-'05) and 40 BV (B; '86-'04).

Results: Groups were identical; mean age (7 days; P=.79), weight (.29), annulus (6.4 mm; .83), LV function (.16), LV dimensions (.45) and cusps (.36). Mean gradients were higher in BV group (58 v 32 mmHg; P=.004). Post-procedure echo indices and valve performance were comparable including gradient and insufficiency. Ten years post-procedure, 8% had died, 62% undergone re-intervention and 30% were alive without re-intervention. These proportions were not different between the groups. Risk of needing aortic valve replacement (AVR) comprised a brief EARLY (<2 years) and rising LATE phase (>5 years) (fig). At 10 years, 23% had undergone AVR. The risk of AVR (or Ross) was not different between opposing strategies. In modulated renewal analysis (95 procedures on 67 patients), freedom from re-intervention was similar for BV vs SV (P=.26) (fig).

Conclusions: Outcomes with SV and BV appear comparable. Our results in these contemporaneous data support evidence derived from comparisons in non-contemporaneous data, and validate the empiric switch to primary BV approaches in the modern era.